

Site

Team

Evaluation

Prioritization

US EPA RECORDS CENTER REGION 5



486270

L1630505006-St. Clair Co.
Swift Ag Chemical-Fairmont City Plant
ILD 059995423
SF\HRS
Volume 1 of 2

CERCLA Report



**Illinois Environmental
Protection Agency**

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SITE TEAM EVALUATION PRIORITIZATION REPORT
SWIFT AG CHEMICAL FAIRMONT CITY PLANT

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1. SITE BACKGROUND

1.1 INTRODUCTION

On April 7, 1995 the Illinois Environmental Protection Agency's (IEPA) CERCLA Site Assessment Program was tasked by the U.S. Environmental Protection Agency (USEPA) to conduct a Site Team Evaluation Prioritization (STEP) of the Swift Ag Chemical\ Fairmont City Site.

This investigation was undertaken by the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 40 CFR, 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

Swift Ag Chemical was initially placed on the Comprehensive Environmental Response Compensation and Liability Inventory System (CERCLIS) in response to the facility listed on the Waste Disposal Site Survey. This survey was presented to the Subcommittee on Oversight and Investigation of the Committee of Interstate and Foreign Commerce, 96th Congress in October 1979. Additional CERCLA investigations include a Preliminary Assessment in 1986, a Screening Site Inspection in 1990, and a Focused Site Inspection Prioritization in 1995.

In May of 1996 the Illinois EPA's CERCLA Site Assessment Unit prepared a Site Team Evaluation Prioritization (STEP) Workplan for Swift Ag Chemical which was submitted to USEPA Region V offices for review. A site safety plan was also prepared at this time and after being reviewed by the Illinois EPA's Office of Chemical Safety, the field activity portion of the inspection occurred on June 4-5,

1996. The CERCLA Inspection included the collection of four shallow soil samples, and five groundwater water samples.

1.2 SITE DESCRIPTION

The Swift Ag Chemical facility is located at 2501 North Kings Highway, Fairmont City, Illinois (southeast 1\4 southeast 1\4 Section 4, Township 2 north Range 9 west of the Third Principal Meridian). The facility was formerly used to process fertilizer and is currently inactive. The chemical facility property consists of approximately 10 acres with topographic coordinates of Latitude 38 52' 58" North and Longitude 90 10' 20" West. The facility is bordered to the south by Rose Creek and the Penn Central railroad tracks. The area south of the railroad tracks is primarily residential. The property north and west of Swift Ag Chem is used by a transport company to park semi-tractor trailers. Kings Highway borders the property on the eastern boundary, directly across from Allied Chemical Corporation East St. Louis Works chemical manufacturing facility. Land use in the area of Swift Ag Chem consists of industrial and urban residential populations.

The majority of the facility operations were conducted in Building #1, which covers approximately 40 percent of the property (FIGURE 1). Building #1 was used for blending and packaging fertilizer in 1989 when the CERCLA Screening Site Inspection was conducted. Building #1 is the main structure on the property and was in poor condition at the time the STEP investigation was conducted. Although fertilizer production was not active when this

STEP investigation was conducted, remaining fertilizer in this building is currently being swept up and sold to local farmers. The current owner plans to demolish the structure of this building once salvageable materials have been removed.

Numerous above ground storage tanks were observed during this CERCLA inspection. All of these tanks have either been removed or are reported as empty of material. For a detailed description of the number of tanks and volume information refer to the CERCLA Focused Site Inspection Prioritization report conducted in 1995.

A wet scrubber was used during the operation of the facility to control fine particulate air emissions. Fertilizer slurry waste were disposed in the area known as the former settling basin (Figure 1). When the settling basin could no longer be used a concrete reservoir was constructed on the west portion of the property. Slurry wastes from the settling basin were excavated and deposited in the concrete reservoir. Slurry wastes from fertilizer production were deposited in the 1,000 gallon concrete reservoir until full capacity was reached. The concrete reservoir remained full of fertilizer slurry waste at the time this STEP investigation was conducted and is exposed to the atmosphere.

The property is completely fenced with a six foot chain link security fence surrounding the property with an access gate on the northeast corner and the southwest corner. The property is secured after work hours when employees are not on-site. Surface water drainage ditches were observed on the north, west and south side of the property outside the security fence. The general surface water

drainage was toward the west-southwest. Surface water from the property enters the ditches surrounding the property and empties into Rose Creek at the southwest corner of the property then continues to flow west.

1.3 SITE HISTORY

The Swift Ag Chemical facility has been in existence since 1931. The original owner of the company was the Virginia Carolina Chemical Company. Mobil Chemical owned and operated the facility from 1967 to 1971. Swift and Company took ownership of the facility in 1971 and operated until 1983 when Beatrice, Inc. purchased and operated the facility until 1986. The current owner of the property is Vigoro Industries, Inc. (IEPA files). Vigoro Industry is leasing the property to an individual who is remanufacturing wood pallets.

According to IEPA file information, the facility has always been used for the production of fertilizer. In processing granulation fertilizer both liquid and solid raw materials have been used in past business practices. Raw materials used in the process include: potash, anhydrous ammonia, sulfuric acid and phosphoric acid. Materials were dry-mixed and blended on-site before shipping off-site.

1.4 REGULATORY STATUS

The Swift Ag Chemical property was initially discovered through several complaints received by IEPA concerning waste spills. IEPA received a report in 1973 from the U.S. Coast Guard

that an unknown quantity of white milky substance had been discharged to Rose Creek. A follow-up investigation revealed that this substance originated from Swift Ag Chem and turned out to be sulfuric acid. An estimated 2,000 to 3,000 gallons were released during this spill.

In 1975, IEPA inspected the surface water around Swift Ag Chem and found a green tint color. Apparently a green dye which was used to color the fertilizer was discharging to the surface water ditch caused by surface run-off. A spill of approximately 1000 gallons of oil entered Rose Creek in 1985 after a valve was left open. The spill was inspected by IEPA after the cleanup was conducted (IEPA Screening Site Inspection report).

A CERCLA Screening Site Inspection (SSI) was conducted on Swift Ag Chemical in December 1989. The purpose of the SSI was intended to characterize soil and sediment on Vigoro Industry property. The 1989 SSI indicated the presence of heavy metals, pesticides and polyaromatic hydrocarbons at levels exceeding three times background concentrations. A Focused Site Inspection Prioritization was conducted in September 1995, by a Field Investigation Team (FIT) contracted by USEPA.

Given the years of operation and the federal and state environmental regulations which existed during this time, the site does not fall under the jurisdiction of the Resource Conservation Recovery Act (RCRA), Atomic Energy Act (AEA), Toxic Substances Control Act (TSCA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), or the Uranium Mill Tailings Radiation Control Act

(UMTRCA).]

IEPA permit file information states that an operating permit was issued on July 17, 1989 and expired on July 17, 1991. The author was not aware of any enforcement actions against the Swift Ag Chem site when this inspection was conducted.

2. STEP ACTIVITIES

This section contains information gathered during the preparation of the formal CERCLA Inspection and previous IEPA activities involving this site. These activities included the reviewing of Illinois EPA records, preparation of the work plan, and on-site interviews with Vigoro Industries Inc. personnel.

2.1 RECONNAISSANCE ACTIVITIES

On April 28, 1996 Mr. Brad Taylor of the Illinois EPA met Mr. Mike Neal and Mr. Mike Kenna from Vigoro Industries Inc. (Vigoro). The site reconnaissance included a visual inspection of the property to determine the locations of site waste management and containment measures. The walk through inspection is also intended to determine appropriate health and safety requirements during on-site sample collection activities.

According to Vigoro Industry representatives, the facility stopped production of fertilizers in 1990. Remaining fertilizer inside Building 1 is being swept up and placed into bags for future sale. At the time of site reconnaissance the manufacturing building was being stripped of usable materials on the interior. Vigoro

Industries plan to demolish the entire structure of Building 1. A liquid chemical storage room was located within Building 1 near the southeast corner of the structure. There were no liquid chemicals observed during this site visit.

Wooden pallets were observed along the southern chain link security fence. Two individuals observed on the south loading dock were remanufacturing damaged wooden pallets for reuse.

A building located near the northwest corner of Building 1 is known as the Granulation Plant. This building was marked with yellow caution tape to keep people away. The integrity of the building's structure was in poor condition. Asbestos pipe insulation exists within the building and asbestos siding cover the exterior of the building. According to Vigoro representatives, a certified asbestos removal contractor will be used to take the asbestos out of this building before it is demolished.

Surrounding land uses include industrial to the east of Swift Ag Chem, a truck hauling company to the north and west, Railroad tracks and rail yard to the south. The closest residential population is located approximately 900 feet south of Swift Ag Chem's southern property boundary.

2.2 SAMPLING ACTIVITIES

IEPA personnel collected environmental samples on June 3 and 4, 1996. Four shallow soil samples were collected from the property. The purpose of collecting soil samples is to compare potential contaminant levels against soil cleanup objectives

established by USEPA. Five groundwater samples were also collected with a Geoprobe unit around the perimeter of the property to determine whether past site activities are impacting local groundwater.

Vigoro Industry, Inc. representatives were given the opportunity to collect split samples in conjunction with IEPA sample collection. Vigoro Industry representatives elected to collect split samples and were present at the time when IEPA personnel conducted the sampling event.

2.3 SAMPLING RESULTS

Five groundwater samples were collected on the property during the STEP field inspection. Alpha-BHC and inorganic constituents were detected above groundwater cleanup objectives listed in TIERED APPROACH CLEANUP OBJECTIVES (TACO) (Table 2.1).

Four surface soil samples were collected around the perimeter of Building 1 during the field inspection. Semivolatiles, pesticides and inorganic constituents were detected above the cleanup objective levels listed in TACO (Table 2.1). Inorganic constituents found surface soil exceeded Removal Action Levels although these contaminants do not appear to be attributable to Swift Ag Chemical operations.

3.0 SITE SOURCES

3.1 CONTAMINATED SOIL

During the 1989 CERCLA Screening Site Inspection and the 1996

Site Team Evaluation Prioritization, surface soil samples were collected on the Swift Ag Chem property to characterize the soil. Surface soil contamination was found which contained a number of Target Compound List compounds and Target Analyte List analytes. If additional analytical information be needed refer to the 1989 CERCLA report.

A potential for human exposure exists because the contaminants found in the sediment samples have migrated west of the facility toward a residential area. Soil contamination found in the surface water pathway is accessible to the public since Rose Creek is not secured with a fence. The facility property is completely surrounded by a fence and is secured with a locked gate when site personnel are not present. Surface soil within the fenced area is accessible to employees working on the property.

3.2 SURFACE IMPOUNDMENTS

One soil sample was collected during the 1989 CERCLA SSI in the area labeled Former Settling Basin on Figure 1. Soil contamination was found to contain a number of Target Compound List compounds and Target Analyte List analytes. According to the SSI report, the settling basin was excavated and lined by a natural clay layer and used from 1973 to 1975 for the deposition of fertilizer slurry. IEPA file information does not include specific dimensions of the Former Settling Basin. When the settling basin was no longer used, the contents were reportedly excavated and deposited in a 1,000 gallon concrete reservoir. The settling basin

was backfilled with cinders (SSI 1989).

The structure labeled Old Reservoir on Figure 1 was constructed of a concrete floor and walls in a circular shape. Excavated fertilizer slurry waste from the settling basin and additional slurry waste from the wet scrubber were deposited in the reservoir. The Old Reservoir was filled with fertilizer waste and covered with soil when this CERCLA STEP investigation was conducted.

MIGRATION PATHWAYS

4.1 GROUNDWATER PATHWAY

The geology of Fairmont City consists of unconsolidated alluvial material approximately 120 feet thick. These alluvial deposits are composed of primarily silt, clay and fine sand deposits. Glacial valley train deposits underlie the fine alluvial deposits and are predominantly sand and gravel. The glacial sand and gravel layers provide most of the groundwater used in the Fairmont City area.

Beneath the glacial deposits lies Mississippian age Bedrock. This bedrock formation consists of layers of limestones, sandstones, shales, siltstones, and dolomites. Several bedrock formations exist of the limestone, shale and dolomite overlying a basement granitic crystalline rock.

Local drinking water in the near vicinity of Swift Ag Chem is supplied by the Illinois American Water Company. The Illinois American Water Company use the Mississippi River as a source for

drinking water. Surface water intakes are located upstream of where surface water drainage from the facility would enter the Mississippi River. One group of municipal drinking groundwater wells were located within the four mile target distance limit. Five wells are located approximately three and a half miles northeast of Swift Ag Chem property and serve the city of Collinsville. These wells range in depth from 98 to 108 feet and obtain water from the shallow glacial deposits. Although these wells are located within glacial deposits, they are not believed to be in danger of being contaminated by Swift Ag Chem. The general groundwater flow was determined during the CERCLA Screening Site Inspection to flow toward the southwest, away from Collinsville wells. Because there were no wells identified within the downgradient groundwater flow, offsite groundwater samples were not collected.

Groundwater samples collected during the CERCLA investigation revealed semivolatiles, pesticides and inorganics. Table 2.0 illustrates a summary of the contaminants detected in the groundwater samples. Alpha-BHC was the only pesticides which exceeded the groundwater Class I standard listed for cleanup objectives in TACO. Additional pesticides were detected in the groundwater samples which were also detected in facility soil samples. However, these concentrations detected did not exceed cleanup objectives. Cadmium, iron, manganese and nickel exceeded the Class I cleanup objectives listed in TACO for inorganic constituents (Table 2.1). The contaminants listed on Table 2.0 were compared to the Superfund Chemical Data Matrix and the

concentrations in bold exceed the benchmarks established for the groundwater pathway.

4.2 SURFACE WATER PATHWAY

The surface water pathway for this facility begins at a drainage ditch which borders the north and west property boundaries. The drainage ditch is located just outside the facility security fence and receives surface drainage from the north and west portions of the property. This drainage ditch flows toward the southwest corner and converges with Rose Creek which flows just outside the south security fence line. From the point where the two waterways meet, Rose Creek flows west approximately one mile into a large wetland area. The surface water flows slowly through these wetlands approximately one mile in a northeasterly direction until it meets the Old Cahokia Creek. Old Cahokia Creek flows northwesterly into Cahokia Canal which empties into the Mississippi River for the remainder of the 15 mile Target Distance Limit (TDL) (Appendix A).

Several targets were found to exist within the 15 mile target distance limit. According to the National Wetlands Inventory maps approximately eight miles of wetland frontage is found in the TDL, mostly located in the Mississippi River. The Cahokia Canal, Shoenberger Creek and the Mississippi River are used as a fisheries. According to the Illinois Department of Natural Resources there are no sensitive environments within one mile of the facility (IEPA files).

There were no surface water samples or sediment samples collected during this CERCLA investigation. However, seven sediment samples were collected during the 1994 IEPA CERCLA Integrated Site Assessment investigation of the OLD American Zinc property. The Zinc smelting property borders the drainage ditch along the north and west Swift Ag Chem fence line. Sediments were collected from Rose Creek and downstream of the Swift Ag Chem facility to determine whether contaminants have migrated from the property. During this inspection: heptachlor epoxide, endosulfan I, 4,4'DDE, endrin, endosulfan II, 4,4'DDD, 4,4'DDT, methoxychlor, alpha-chlordane, gamma-chlordane, and dieldrin were detected in sediment samples downgradient of Swift Ag Chem property. Because pesticides were used in the facility operations and were detected in drainage pathways carrying surface water away from the property they appear to be attributable to the facility.

Seven sediment samples were collected during the 1989 CERCLA Screening Site Inspection. A release to Rose Creek, which is defined as an intermittent stream, has been documented due to pesticides found in the sediment samples. The following pesticides were detected at concentrations above background concentrations, gamma Chlordane at 1,700DJ ug/kg and 340DJ ug/kg, Dieldrin 290 ug/kg and 340DJ ug/kg. The concentration of contaminants found in sediment samples were compared to the Ontario Aquatic Sediment Quality Guidelines. These sediment quality guidelines are nonregulatory ecological benchmark values that serve as indicators of potential aquatic impacts. Gamma-Chlordane and Dieldrin

concentrations exceeded the Lowest Effect Level but remained below the Severe Effect Level.

4.3 SOIL EXPOSURE PATHWAY

The soil on the facility property and much of Fairmont City surrounding the property generally consists of urban land which is nearly level or gently sloping. According to the St. Clair County Soil Survey, soil conditions classified as Urban Land is covered by buildings and pavement. Buildings and paved areas are said to make up 75 percent of the area which cause surface runoff to be rapid. Soil classification south of the facility, mainly Washington Park, consists of silty urban soil covered mostly by buildings and pavement. The substratum of the general area is sandy which results in a high permeability and makes groundwater more susceptible to surface soil contaminants.

Soil and sediment samples collected during the 1989 Screening Site Inspection and the 1996 CERLCA STEP inspection reveal the presence of pesticides and PAH's at detectable concentrations (Table 2). Heavy metals were also found at elevated concentrations in the soil and sediment samples although these contaminants are not likely to be attributable to facility operations of Swift Ag Chem.

The potential for the public to come in contact with Swift Ag property soils is low because the site is completely fenced and locked when site personnel are not present. A potential does exist for workers on the property to come into direct contact with

contaminants detected in soil and sediments. Also the public could be exposed to contaminants found in the surface water pathway leading away from the Swift Ag Chem property due to contaminants found in the sediments and lack of an adequate barrier. The nearest residence to the facility is approximately 900 feet south. The closest school to Swift Ag Chem is approximately one mile south. There are approximately 3,000 people within one mile of the facility (FSIP 1995).

Table 2.0 lists a summary of the contaminants found in the soil samples taken on Swift Ag Chem property. These concentrations were compared to TACO for industrial\commercial soil to make-up Table 2.1. Table 2.1 shows the soil samples which exceed the industrial cleanup objectives for semivolatiles, pesticides and inorganic constituents. The contaminants listed in Table 2.0 were compared to the Superfund Chemical Data Matrix and the concentrations in bold exceed the benchmarks established for the soil exposure pathway.

4.4 AIR PATHWAY

No air samples were collected, nor were any air releases observed during the field inspection. During the CERCLA investigation air monitoring readings of soil samples collected from the property were elevated compared to background concentrations.

The presence of pesticides and PAH's in the soil and sediment samples creates a potential for contaminants to be carried away

from the facility. Areas of where surface soil samples were collected were not well vegetated.

The population of Fairmont City consists of approximately 2,313 people and the population within one mile of the facility is approximately 3036 people. No shallow residential soils were collected during this STEP inspection.

TABLE 1.0
SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE	LOCATION
G101\G102	16 feet	Dark silty material suspended in the water. Water smell like diesel fuel. TVA Readings: PID 12 ppm FID was over 400 ppm	Water sample taken east of the main office building near the northeast corner of the property.
G103		Sandy silt suspended at the beginning of the pumping process. After a few were pumped the water cleared.	Water sample collected along the northwest fence line.
G104	4 feet	Water was clear in color with no odor noted.	Water sample collected near the southwest corner of the property within the fence line G104 measured 106 feet north of the south fence and 61 feet east of the west fence.
G105	24 feet	Water first appeared cloudy which cleared after the first two gallons.	Water sample taken south of building along the south fence line G105 measured 14.5 feet north of the south fence line and 199 feet east of Building 1 loading dock.
X101	2-4 inches	Silty sand with blue chips in the soil. Vegetation is dead in this area. TVA Readings: PID 100 ppm FID 2.0 ppm	Soil was taken near the southwest corner of the property in a low area north of the loading dock attached to Building 1. X101 measured 14 feet north of the loading dock and 50 feet west of the southwest corner of Building 1.
X102\X103	1-2 inches	Sandy silt with some organic material present. No vegetation present. TVA Reading: PID 2.8 ppm FID 2.4 ppm Background: PID 0.48 ppm FID 2.34 ppm	Soil sample was collected north of Building 1. Sample location measurements include 25 feet north of Building 1 and 97 feet east of the south-east corner of the Granulation Plant.
X104	1-3 inches	Silty sand with gravel present, water under the sample location was bubbling when the soil was disturbed. TVA Reading: PID 15 ppm FID 3.0 ppm Background: PID 0.75 ppm FID 2.9 ppm	Soil location was collected west of the Granulation Plant in a ditch which drains to the west. X104 measured 18 feet north of Building 1 and 15 feet east of concrete silo used for storing sulfuric acid.

SITE NAME: SWIFT AG
CHEMICAL
ILD 059995423

TABLE 2.0
SURFACE SOIL AND GROUNDWATER SAMPLE SUMMARY

SAMPLING POINT	X101	X102	X103	X104	G101	G102	G103	G104	G105	FIELD BLANK	TRIP BLANK
PARAMETER											
VOLATILES (PPB or ug/l)											
Ethylbenzene	-	-	-	-	-	-	-	-	3.0 J	-	-
Xylene (total)	-	-	-	-	3.0 J	-	-	-	-	-	-
SEMIVOLATILES (PPB or ug/l)											
Phenol	-	-	42.0 J	-	0.5 J	-	0.6 J	-	-	0.6 J	-
4-Methylphenol	-	94.0 J	-	65.0 J	-	-	-	-	-	-	-
2-Nitrophenol	-	-	-	-	-	-	-	0.5 J	-	-	-
2,4-Dichlorophenol	100.0 J	94.0 J	42.0 J	58.0 J	-	-	1.0 J	-	-	-	-
1,2,4-Trichlorobenzene	-	-	54.0 J	-	-	-	-	-	-	-	-
Naphthalene	48.0 J	120.0 J	110.0 J	70.0 J	5.0 J	3.0 J	-	-	-	-	-
4-Chloro-3-Methylphenol	-	60.0 J	-	40.0 J	-	-	-	-	-	-	-
2-Methylnaphthalene	54.0 J	130.0 J	98.0 J	77.0 J	12.0	6.0 J	-	-	-	-	-
2,4,6-Trichlorophenol	55.0 J	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	-	-	-	-	1.0 J	0.7 J	-	-	-	-	-
Acenaphthylene	-	160.0 J	450.0 J	100.0 J	-	-	-	-	-	-	-
Acenaphthene	-	-	40.0 J	-	18.0	13.0	-	-	-	-	-
4-Nitrophenol	-	-	-	-	-	-	-	2.0 J	-	-	-
Dibenzofuran	41.0 J	68.0 J	-	41.0 J	10.0	9.0 J	-	-	-	-	-
Diethylphthalate	34.0 J	40.0 J	36.0 J	-	1.0 J	-	-	-	2.0 J	-	-
Fluorene	-	69.0 J	47.0 J	46.0 J	14.0	11.0	-	-	-	-	-
N-Nitrosodiphenylamine	-	64.0 J	-	-	16.0	-	-	-	-	-	-
Hexachlorobenzene	-	660.0 J	160.0 J	380.0 J	-	-	-	-	-	-	-
Pentachlorophenol	5100.0	36.0 J	-	-	-	-	-	-	-	-	-
Phenanthrene	410.0 J	1500.0	570.0 J	870.0	45.0	32.0	-	-	-	-	-
Anthracene	74.0 J	390.0 J	720.0	250.0 J	5.0 J	3.0 J	-	-	-	-	-
Carbazole	48.0 J	270.0 J	130.0 J	180.0 J	20.0	17.0	-	-	-	-	-
Di-n-Butylphthalate	2000.0	-	-	39.0 J	-	0.6 J	-	-	-	-	-
Fluoranthene	490.0 J	3900.0	1100.0	2600.0	0.9 J	0.5 J	-	-	-	-	-
Pyrene	520.0 J	3700.0	1500.0	2300.0	2.0 J	1.0 J	-	-	-	-	-
Butylbenzylphthalate	-	220.0 J	88.0 J	180.0 J	-	-	-	-	-	-	-
Benzo(a)anthracene	220.0 J	2100.0	1400.0	1300.0	-	-	-	-	-	-	-
Chrysene	440.0 J	3400.0	2200.0	2200.0	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	1600.0	2300.0	2100.0	1700.0	-	-	-	-	-	-	-
Benzo(b)fluoranthene	310.0 J	4600.0	2300.0	3000.0	-	-	-	-	-	-	-
Benzo(k)fluoranthene	510.0 J	3500.0	1500.0	2000.0	-	-	-	-	-	-	-
Benzo(a)pyrene	180.0 J	3100.0	1600.0	1900.0	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	75.0 J	3100.0	1100.0	1800.0	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	150.0 J	-	580.0 J	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	380.0 J	3500.0	1200.0	1900.0	-	-	-	-	-	-	-
PESTICIDES (PPB or ug/l)											
alpha-BHC	1.1 JP	5.4 JP	4.0 J	1200.0 C	-	-	.006 JP	.079 P	-	-	-
beta-BHC	2.6 JP	9.8 JP	8.0 JP	320.0	-	.009 JP	-	.04 JP	-	-	-
delta-BHC	12.0 JP	44.0 P	19.0 JP	90.0 P	.005 JP	-	-	-	-	-	-
gamma-BHC (Lindane)	-	-	-	190.0	.038 JP	-	-	.008 J	.004 J	-	-
Heptachlor	170.0	59.0	37.0	11.0 JP	-	-	-	.005 JP	.015 J	-	-
Aldrin	3900.0 PEC	310.0 P	140.0 P	5.9 JP	-	-	-	-	-	-	-
Heptachlor epoxide	30.0 P	21.0 JP	16.0 JP	39.0 P	.009 JP	-	-	-	-	-	-
Dieldrin	-	330.0 UX	320.0	-	-	-	-	-	-	-	-
4,4'-DDE	6.2 JP	13.0 JP	6.4 JP	5.1 JP	-	-	-	-	-	-	-
Endrin	-	-	-	4.7 JP	-	.004 J	-	-	-	-	-
4,4'-DDD	5.9 JP	12.0 JP	6.8 J	-	-	-	-	-	-	-	-
Endosulfan sulfate	6.4 JP	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	120.0	7.4 JP	-	-	-	-	-	-	-	-	-
Methoxychlor (Mariate)	21.0 JP	16.0 JP	7.1 JP	5.9 JP	-	-	-	-	-	-	-
Endrin Ketone	-	35.0 JP	18.0 JP	22.0 J	-	-	-	-	-	-	-
alpha-Chlorodane	46.0 P	56.0 P	61.0 P	2.8 JP	-	-	-	-	-	-	-
gamma-Chlorodane	310.0 PE	330.0 UX	340.0	12.0 JP	.009 J	.015 JP	-	-	-	-	-
INORGANICS											
	(PPM)	(PPM)	(PPM)	(PPM)	(PPB)	(PPB)	(PPB)	(PPB)	(PPB)	(PPB)	(PPB)
Aluminum	21300.0	12800.0	12200.0	10900.0	37.6 B	47.8 B	3340.0	17600.0	12200.0	15.4 B	-
Antimony	6.5 B	14.9 B	14.5 B	47.5	16.1 B	-	-	-	-	-	-
Arsenic	30.9	17.9	18.7	25.3	27.8	46.0	14.8	30.9	-	-	-
Barium	447.0	177.0	172.0	248.0	531.0	478.0	27.7 B	24.3 B	40.1 B	-	-
Beryllium	0.7 B	1.4 B	1.3 B	1.0 B	-	-	1.8 B	1.7 B	0.6 B	-	-
Cadmium	19.2	35.3	33.4	37.3	-	-	3150.0	193.0	29.2	-	-
Calcium	48100.0	142000.0	137000.0	37900.0	146000.0	149000.0	371000.0	197000.0	320000.0	86.0 B	-
Chromium	88.1	77.7	63.1	44.8	-	-	-	7.2 B	-	-	-
Cobalt	9.9 B	10.5 B	10.1 B	10.5 B	-	-	91.4	53.7	56.5	-	-
Copper	336.0	1680.0	968.0	452.0	3.3 B	1.9 B	4.5 B	100.0	55.7	1.7 B	-
Iron	59600.0	24700.0	22500.0	33300.0	18600.0	23600.0	4890.0	1580.0	3760.0	2.0 B	-
Lead	1010.0	887.0	793.0	1200.0	2.3 B	1.6 B	2.8 B	1.5 B	3.8	1.6 B	-
Magnesium	12600.0	9410.0	8740.0	2700.0	47900.0	49300.0	110000.0	41900.0	21500.0	-	-
Manganese	806.0	1820.0	1830.0	481.0	3776.0	4180.0	11500.0	6070.0	3130.0	1.0 B	-
Mercury	2.1	0.6	0.5	0.2	-	-	-	-	-	-	-
Nickel	40.4	56.2	60.9	28.2	-	-	236.0	183.0	106.0	-	-
Potassium	10500.0	4790.0	4420.0	2200.0	3640.0	2940.0 B	56300.0	204000.0	59900.0	-	-
Selenium	1.3 B	1.4 B	1.1 B	0.7 B	-	-	1.6 B	-	-	-	-
Silver	0.9 B	4.3	9.1	1.1 B	-	-	-	-	-	-	-
Sodium	1050.0 B	828.0 B	856.0 B	730.0 B	11200.0	11800.0	41600.0	11900.0	40600.0	81.9 B	-
Thallium	-	0.4 B	0.6 B	0.2 B	-	-	-	-	0.8 B	-	-
Vanadium	68.7	66.7	64.0	52.2	2.1 B	2.8 B	5.8 B	16.2 B	-	-	-
Zinc	4590.0	9320.0	9480.0	16000.0	10.2 B	9.0 B	121000.0	31500.0	731.0	17.8 B	-
Cyanide	2.7	1.2	1.0	1.2	0.9 B	2.7 B	5.8	27.2	7.0	-	-
PH	5.1	6.0	6.3	6.2	6.0	6.0	6.0	6.0	6.0	6.0	-

* Bold numbers exceed the Benchmarks for the soil and groundwater pathways listed in the SUPERFUND CHEMICAL DATA MATRIX (SCDM).

SITE NAME: SWIFT AG CHEMICAL ILD 059995423		TABLE 2.1 SOIL AND GROUNDWATER SAMPLES EXCEEDING TIERED APPROACH CLEANUP OBJECTIVES									
SAMPLING POINT	SOIL CLEANUP OBJECTIVES	X101	X102	X103	X104	GROUNDWATER CLEANUP OBJECTIVES	G101	G102	G103	G104	G105
PARAMETER											
SEMIVOLATILES (PPB or ug/l)											
Pentachlorophenol	10	5100.0	36.0 J	--	--		--	--	--	--	--
Benzo(a)anthracene	700	--	2100.0	1400.0	1300.0		--	--	--	--	--
Chrysene	1000	--	3400.0	2200.0	2200.0		--	--	--	--	--
Benzo(b)fluoranthene	4000	--	4600.0	--	--		--	--	--	--	--
Benzo(a)pyrene	800	--	3100.0	1600.0	1900.0		--	--	--	--	--
PESTICIDES (PPB or ug/l)											
alpha-BHC	0.4	1.1 JP	5.4 JP	4.0 JP	1200.0 C	0.03	--	--	--	.079 P	--
gamma-BHC (Lindane)	6	--	--	--	190		--	--	--	--	--
Heptachlor	60	170	--	--	--		--	--	--	--	--
Aldrin	5	3900.0 PEC	310 P	140 P	5.9 JP		--	--	--	--	--
Heptachlor epoxide	30	--	--	--	39 P		--	--	--	--	--
Dieldrin	1	--	330 UX	320	--		--	--	--	--	--
INORGANICS											
		(PPM)	(PPM)	(PPM)	(PPM)	(PPB)	(PPB)	(PPB)	(PPB)	(PPB)	(PPB)
Arsenic		30.9	17.9	18.7	25.3		--	--	--	--	--
Barium		447.0	177.0	172.0	248.0		--	--	--	--	--
Beryllium		0.7 B	--	--	--		--	--	--	--	--
Cadmium		19.2	35.3	33.4	37.3	5.0	--	--	3150.0	193.0	29.2
Chromium		68.1	77.7	63.1	44.8		--	--	--	--	--
Iron		--	--	--	--	5000	18600.0	23600.0	--	--	--
Lead		1010.0	887.0	793.0	1200.0		--	--	--	--	--
Manganese		--	--	--	--	150	3770.0	4180.0	11500.0	6070.0	3130.0
Mercury		2.1	0.6	0.5	0.2		--	--	--	--	--
Nickel		40.4	56.2	60.9	28.2	100	--	--	236.0	183.0	106.0
Vanadium		--	0.4 B	0.6 B	--		--	--	--	--	--
Zinc		4590.0	9320.0	9480.0	16000.0		--	--	--	--	--
pH		5.1	6.0	6.3	6.2		6.0	6.0	6.0	6.0	6.0

* Soil cleanup objectives were taken from the TIERED APPROACH CLEANUP OBJECTIVES GUIDANCE DOCUMENT.

* Cleanup objectives for soil inorganics were not listed because each sample is pH. dependent.

* Industrial/ Commercial cleanup number were listed.

* Groundwater cleanup objectives were based on Class 1 standards.

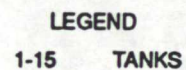
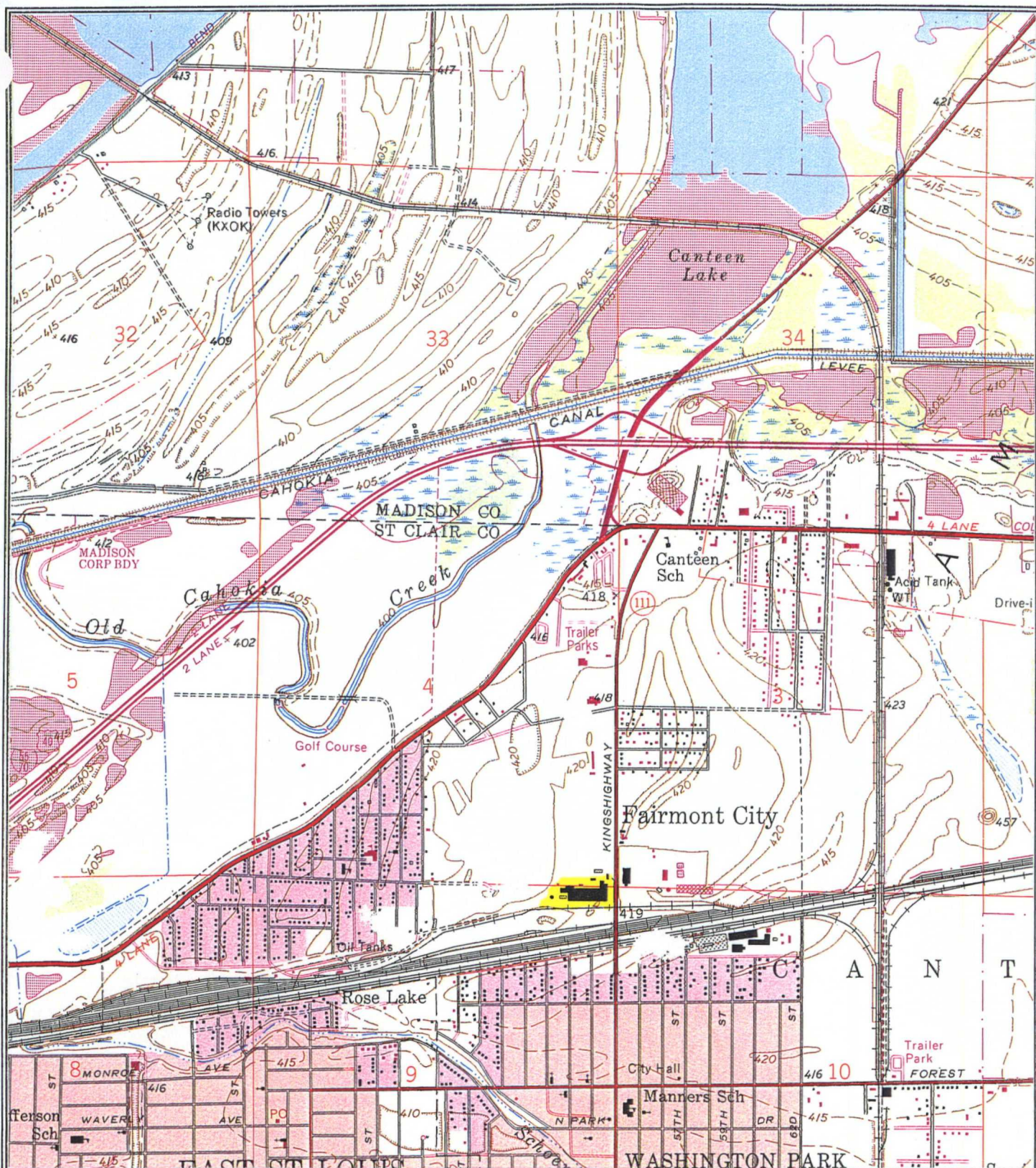


FIGURE 1 SAMPLE LOCATION MAP



SITE LOCATION MAP

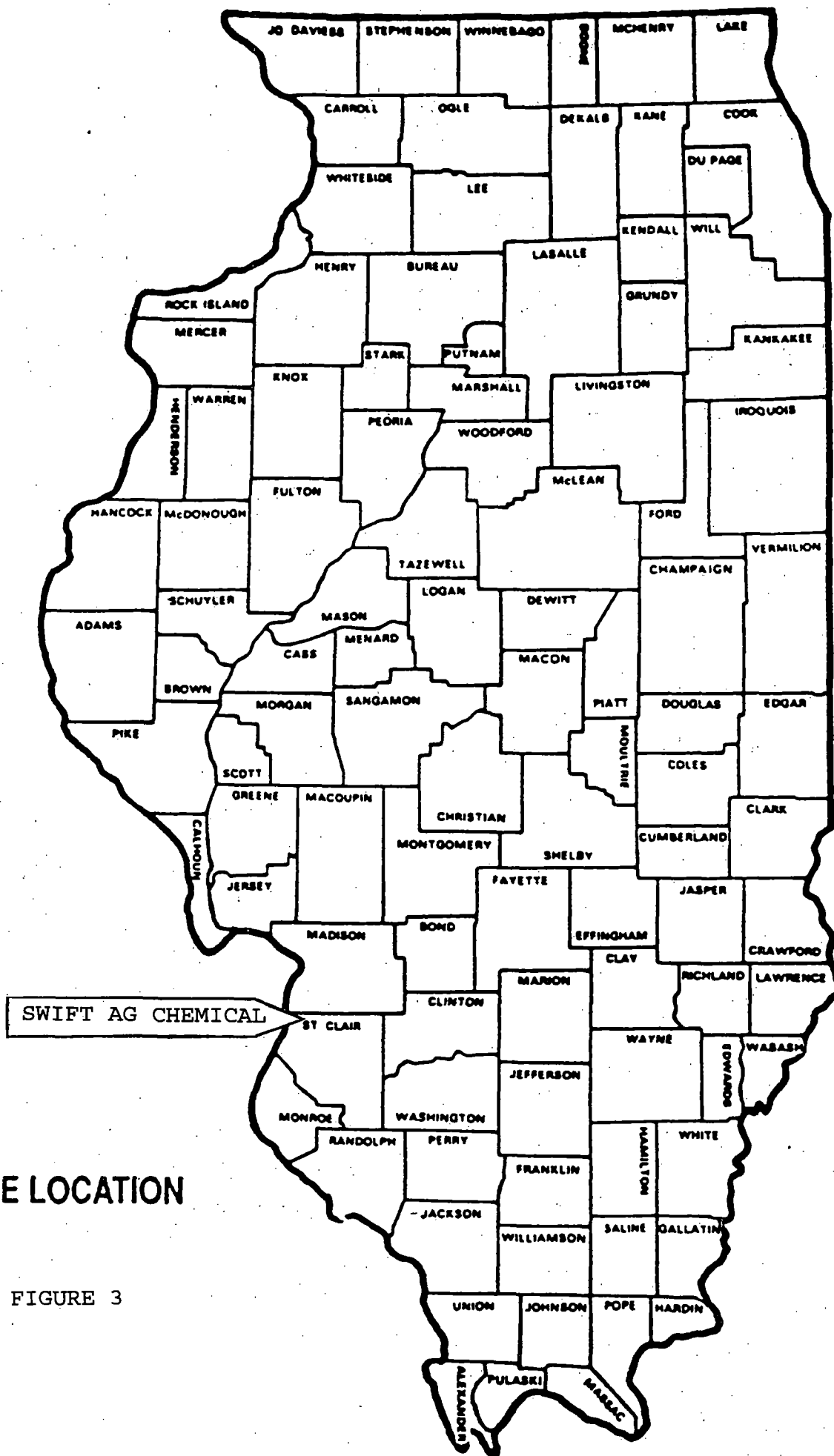
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SWIFT AG CHEM FAIRMONT CITY PLANT

FAIRMONT CITY, ILLINOIS

FIGURE 2



SITE LOCATION

FIGURE 3

Appendix A
4-MILE RADIUS
&
SURFACE WATER MAP

APPENDIX B

TARGET COMPOUND LIST

DATA QUALIFIERS

QUALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS
U	Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two, to account for the fact that only half of the extract is recovered.	Analyte was analyzed for but not detected.
J	Estimated value. Used when estimating a concentration for tentatively identified compounds (TICS) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.
C	This flag applies to pesticide results where the identification is confirmed by GC/MS.	Method qualifier indicates analysis by the Manual Spectrophotometric method.
B	Analyte was found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	The reported value is less than the CRDL but greater than the instrument detection limit (IDL).
D	Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and <u>all</u> concentration values are flagged with the "D" flag.	Not used.
E	Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.	The reported value is estimated because of the presence of interference.
A	This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.	Method qualifier indicates analysis by Flame Atomic Absorption (AA).
M	Not used.	Duplicate injection (a QC parameter not met).

N	Not used	Spiked sample (a QC parameter not met).
S	Not used.	The reported value was determined by the Method of Standard Additions (MSA).
W	Not used.	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.
•	Not used.	Duplicate analysis (a QC parameter not within control limits).
+	Not used.	Correlation coefficient for MSA (a QC parameter) is less than 0.995.
P	Not used.	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.
CV	Not used.	Method qualifier indicates analysis by Cold Vapor AA.
AV	Not used.	Method qualifier indicates analysis by Automated Cold Vapor AA.
AS	Not used.	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.
T	Not used.	Method qualifier indicates Titrimetric analysis.
NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.
R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chloride	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroethene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether

Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1,2,4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2-chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2-Chloronaphthalene	3-3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3-Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1,2,3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a,h)Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i)Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobalt	Vanadium
Copper	Zinc

Iron	Cyanide
Lead	Sulfide
Magnesium	

Appendix C

Site Team Evaluation Prioritization Photographs

SITE NAME: SWIFT AG CHEMICAL\FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 4, 1996

TIME: 1230

PHOTO BY: Brad Taylor

SAMPLE: G101\G102

DIRECTION: South

COMMENTS:

Photograph looking
toward Building 1.



DATE: June 4, 1996

TIME: 1230

PHOTO BY: Brad Taylor

SAMPLE: G101\G102

DIRECTION: West

COMMENT:

Photograph looking
toward the main
office building.



SITE NAME: SWIFT AG CHEMICAL\FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 4, 1996

TIME: 1515

PHOTO BY: Brad Taylor

SAMPLE: G103

DIRECTION: South

COMMENTS: Photograph looking toward the granulation plant.



DATE: June 4, 1996

TIME: 1515

PHOTO BY: Brad Taylor

SAMPLE: G103

DIRECTION: West

COMMENTS: Photograph looking property fence line with a drainage ditch just outside the fence.



SITE NAME: SWIFT AG CHEMICAL FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 5, 1996

TIME: 0700

PHOTO BY: Brad Taylor

SAMPLE: G104

DIRECTION: East

COMMENTS: Photograph looking toward Building 1.



DATE: June 5, 1996

TIME: 0700

PHOTO BY: Brad Taylor

SAMPLE: G104

DIRECTION: West

COMMENTS: Photograph looking toward the fence line on the southwest corner of the property.



SITE NAME: SWIFT AG CHEMICAL/FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 5, 1996

TIME: 0900

PHOTO BY: Brad Taylor

SAMPLE: G105

DIRECTION: West

COMMENTS: Photograph of sample location, next to a stack of wood pallets.



DATE: June 5, 1996

TIME: 0900

PHOTO BY: Brad Taylor

SAMPLE: G105

DIRECTION: South

COMMENTS: Photograph looking toward the south fence line of the property. Extensive railroad south of the property.



SITE NAME: SWIFT AG CHEMICAL\FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 5, 1996

TIME: 1045

PHOTO BY: Brad Taylor

SAMPLE: X101

DIRECTION: South

COMMENTS: Photograph looking toward the concrete loading dock on the southwest corner of Building 1.



DATE: June 5, 1996

TIME: 1045

PHOTO BY: Brad Taylor

SAMPLE: X101

DIRECTION: East

COMMENTS: Photograph looking toward the southwest corner of Building 1.



SITE NAME: SWIFT AG CHEMICAL\FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 4, 1996

TIME: 0945

PHOTO BY: Brad Taylor

SAMPLE: X102\X103

DIRECTION: South

COMMENTS: Photograph looking toward Building 1.



DATE: June 4, 1996

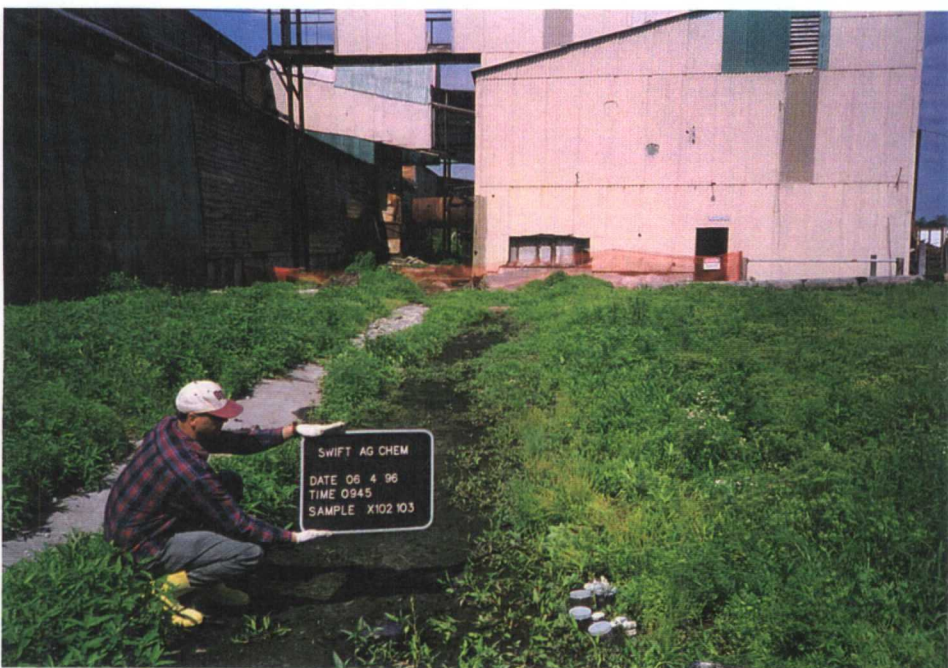
TIME: 0945

PHOTO BY: Brad Taylor

SAMPLE: X102\X103

DIRECTION: West

COMMENTS: Photograph looking toward the Granulation Plant.



SITE NAME: SWIFT AG CHEMICAL/FAIRMONT CITY PLANT

CERCLIS ID: ILD 059995423

COUNTY: ST. CLAIR

DATE: June 5, 1996

TIME: 1115

PHOTO BY: Brad Taylor

SAMPLE: X104

DIRECTION: South

COMMENTS: Photograph looking toward Building 1.



DATE: June 5, 1996

TIME: 1115

PHOTO BY: Brad Taylor

SAMPLE: X104

DIRECTION: West

COMMENTS: Photograph looking toward the large tanks which were used to store sulfuric acid.

